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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,367	03/30/2004	Wei-Kuo Lee	DOW-31481-A	4720

29423 7590 10/13/2005

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EXAMINER

NGUYEN, CHAU N

ART UNIT	PAPER NUMBER
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2831

DATE MAILED: 10/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

11A

Office Action Summary	Application No. 10/813,367	Applicant(s) LEE ET AL.	
	Examiner Chau N. Nguyen	Art Unit 2831	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Oath/Declaration

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

Non-initialed and/or non-dated alterations have been made to the oath or declaration. See 37 CFR 1.52(c).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor

and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1, 4, 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Delphin et al. (4,717,505) in view of Smalley et al. (6,183,714).

Delphin et al. discloses a composition comprising polyethylene (a), at least about 3 parts by weight, based on the weight of component (a), carbon fiber (b), and a conductive carbon black (c) other than the carbon fiber, the carbon black being present in an amount at least about 10 parts by weight, based on the weight of the component (a) (col. 3, lines 29-34). Noted that the limitations followed by the term "optionally" are not positive limitations (re claims 1 and 7).

Delphin et al. does not disclose the composition comprising carbon nanotubes nor the composition being used to surround a conductor. Smalley et al. discloses a composition comprising carbon nanotubes. Smalley et al. discloses that carbon nanotubes are useful as strengthening agents in any composite material or useful in combining with other forms of carbon such as carbon black (col. 3, lines 61-65). Accordingly, it would have been obvious to one skilled in the art to replace the carbon fiber with carbon nanotubes in the composition of Delphin et al.

since it is taught by Smalley et al. that carbon nanotubes are useful as strengthening agents in any composite material or useful in combining with other forms of carbon such as carbon black. It would also have been obvious to one skilled in the art to use the composite of Delphin et al. to surround a conductor since the composition of Delphin et al. provides both electrical and mechanical properties.

The modified composition of Delphin et al. also discloses the component (c) being present in an amount of about 10 to about 100 parts by weight per 100 parts by weight of the component (a) (re claim 4), for each 100 parts of component (a), component (b) being present in an amount of about 3 to about 17 parts by weight, component (c) being present in an amount of about 10 to about 100 parts by weight, and the weight ration of component (b) to component (c) being about 0.1:1.0 to about 10:1 (re claim 5),

5. Claims 2, 3, 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Delphin et al. in view of Smalley et al. as applied to claim 1 above, and further in view of Burns, Jr. (4,857,232).

The combination of Delphin et al. and Smalley et al. discloses the invention substantially as claimed except for the component (a) being a copolymer of

ethylene and an unsaturated ester which is vinyl esters, wherein the unsaturated esters is present in the ethylene/unsaturated esters copolymer in an amount of about 10 to about 55 percent by weight. Burns, Jr. discloses a composition comprising a copolymer of ethylene and an unsaturated esters (vinyl esters), wherein the unsaturated esters is present in the ethylene/unsaturated esters copolymer in an amount of about 10 to about 55 percent by weight (col. 2, lines 1-8). It would have been obvious to one skilled in the art to use the copolymer as taught by Burns, Jr. for the component (a) of Delphin et al. since this copolymer is well-known in the art for being used in polymeric compositions.

Response to Arguments

6. Applicant's arguments filed 9/2/2005 have been fully considered but they are not persuasive. In response to applicant's argument that the prior art would not lead to one skilled in the art to expect the synergistic effects on melt viscosity and volume resistance achieved by using a blend of carbon nanotubes and carbon black, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). In addition, as suggested

by Smalley et al., carbon nanotubes are useful as strengthening agents in any composite material or useful in combining with other forms of carbon such as carbon black. Accordingly, the use of a mixture of carbon black and carbon nanotubes in a composite material is taught in the prior art.

Summary

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chau N. Nguyen whose telephone number is 571-272-1980. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on 571-272-2800 ext 31. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Chau N Nguyen
Primary Examiner
Art Unit 2831